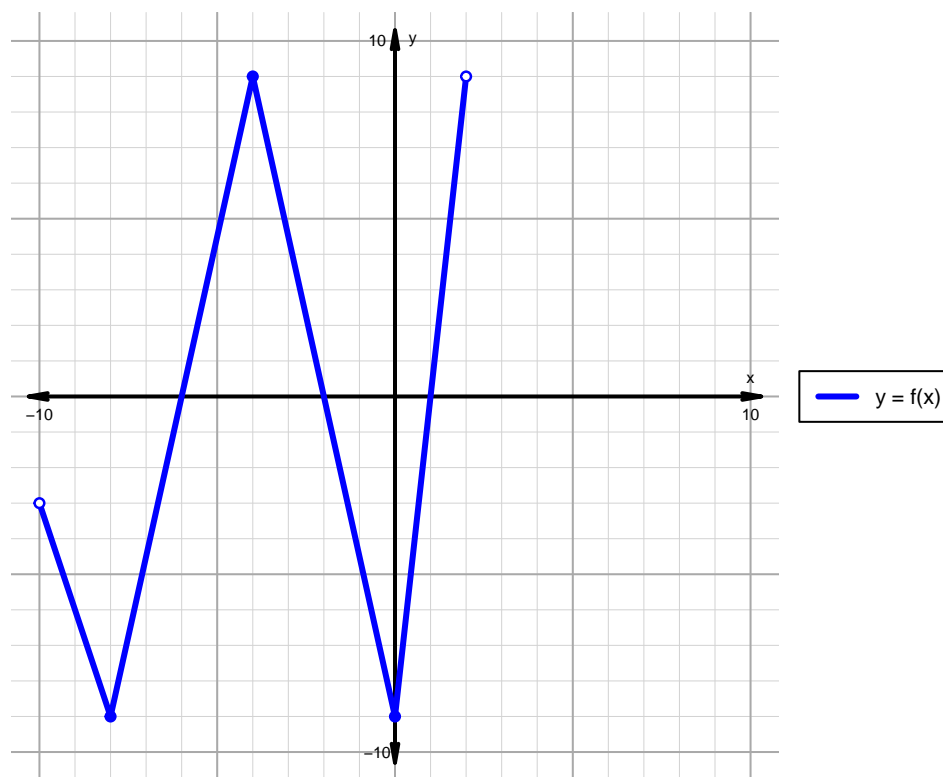


Name: \_\_\_\_\_

Date: \_\_\_\_\_

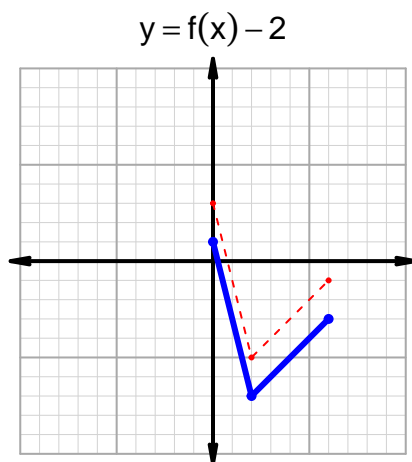
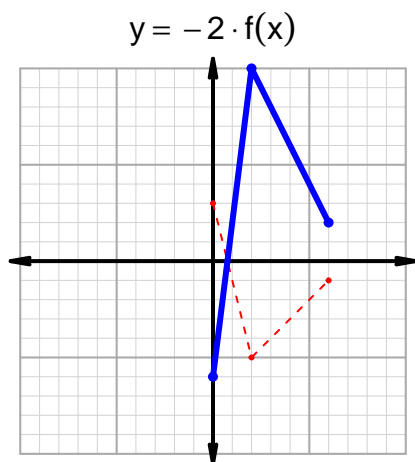
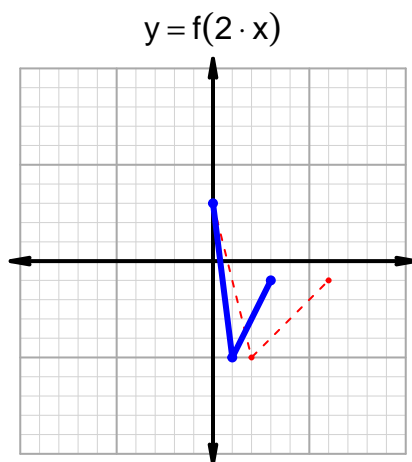
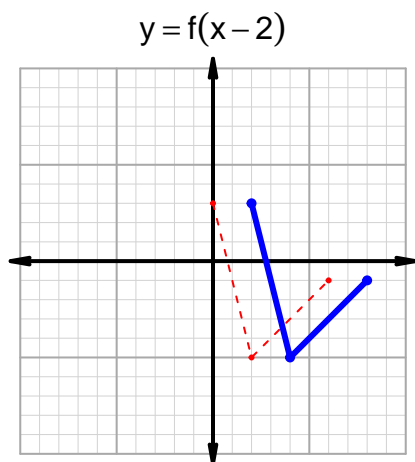
**Intervals, Transformations, and Slope Solution (version 56)**1. The function  $f$  is graphed below.

Indicate the following intervals using interval notation. Remember, you can use  $\cup$  between two intervals to indicate the union. Except for range, all intervals will indicate  $x$  values; this is standard.

Feature	Where
Positive	$(-6, -2) \cup (1, 2)$
Negative	$(-10, -6) \cup (-2, 1)$
Increasing	$(-8, -4) \cup (0, 2)$
Decreasing	$(-10, -8) \cup (-4, 0)$
Domain	$(-10, 2)$
Range	$(-9, 9)$

## Intervals, Transformations, and Slope Solution (version 56)

2. In the four graphs below,  $y = f(x)$  is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function  $g$  be defined by the table below. Use the formula  $\frac{g(x_2) - g(x_1)}{x_2 - x_1}$  to find the average rate of change between  $x_1 = 38$  and  $x_2 = 92$ . Express your answer as a reduced fraction.

$x$	$g(x)$
20	92
38	20
68	38
92	68

$$\frac{g(92) - g(38)}{92 - 38} = \frac{68 - 20}{92 - 38} = \frac{48}{54}$$

The greatest common factor of 48 and 54 is 6. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{8}{9}$$